6BL8

Medium-Mu Triode—Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE

GENERAL DATA

Electrical:

Heater Characteristics and Ratings *(Design-Center Values)*:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	0.450	amp
Peak heater-cathode voltage (Each unit):		
Heater negative with respect to cathode	100 max.	volts
Heater positive with respect to cathode	100 max.	volts

Direct Interelectrode Capacitances:[a]

Triode Unit:		
Grid to plate	1.5	μμf
Grid to cathode and heater	2.5	μμf
Plate to cathode and heater	1.8	μμf
Pentode Unit:		
Grid No.1 to plate	0.025 max.	μμf
Grid No.1 to cathode & grid No.3 & internal shield, grid No.2, and heater	5.5	μμf
Plate to cathode & grid No.3 & internal shield, grid No.2, and heater	3.8	μμf
Pentode plate to triode grid	0.02 max.	μμf
Pentode grid No.1 to triode plate	0.16 max.	μμf
Pentode plate to triode plate	0.07 max.	μμf

Characteristics, Class A₁ Amplifier:

	Triode Unit	*Pentode Unit*	
Plate Voltage	100	170	volts
Grid-No.2 Voltage	–	170	volts
Grid-No.1 Voltage	–2	–2	volts
Amplification Factor	20	–	
Amplification Factor, Grid No.2 to Grid No.1	–	47	
Plate Resistance (Approx.)	–	0.4	megohm
Transconductance	5000	6200	μmhos
Plate Current	14	10	ma
Grid-No.2 Current	–	2.8	ma
Input Resistance at frequency (Mc) = 50	–	0.01	megohm
Equivalent Noise Resistance	–	1500	ohms

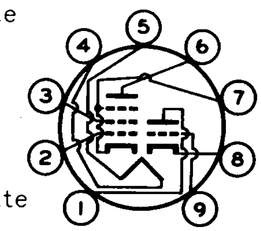
Mechanical:

Operating Position . . . . Any
Type of Cathodes . . . . Coated Unipotential

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Maximum Overall Length	2-3/16"
Maximum Seated Length	1-15/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline	See *General Section*
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9DC

Pin 1 - Triode Plate
Pin 2 - Pentode Grid No.1
Pin 3 - Pentode Grid No.2
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate



Pin 7 - Pentode Grid No.3, Pentode Cathode, Internal Shield
Pin 8 - Triode Cathode
Pin 9 - Triode Grid

AMPLIFIER — Class A_1

Maximum Ratings, *Design-Center Values:*

	Triode Unit	*Pentode Unit*	
PLATE SUPPLY VOLTAGE	550 max.	550 max.	volts
PLATE VOLTAGE	250 max.	250 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE	-	550 max.	volts
GRID-No.2 VOLTAGE:			
With cathode ma. = 14	-	175 max.	volts
With cathode ma. < 10	-	200 max.	volts
CATHODE CURRENT	14 max.	14 max.	ma
GRID-No.2 INPUT:			
With plate dissipation (watts) > 1.2	-	0.5 max.	watt
With plate dissipation (watts) < 1.2	-	0.75 max.	watt
PLATE DISSIPATION	1.5 max.	1.7 max.	watts

Maximum Circuit Values:

	Triode Unit	*Pentode Unit*	
Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.5 max.	0.5 max.	megohm
For cathode-bias operation	0.5 max.	1 max.	megohm

[a] Without external shield.